

W claim:

1. A method for synchronising to a CDMA-signal that contains
5 a pilot sequence, overlaid with data sequences,
comprising the following process steps:
correlating the total signal consisting of the
transmitted pilot sequence and transmitted data sequences
with a reference pilot sequence;
10 subtracting the correlation result time-delayed by
one or more symbol durations of the pilot sequence from
the current correlation result in order to suppress the
pilot sequence and subsequent incoherent averaging, and
determining the minimum.
15
2. A method for synchronising to a CDMA-signal that contains
a pilot sequence, overlaid with data sequences,
comprising the following process steps:
correlating the total signal consisting of the
20 transmitted pilot sequence and transmitted data sequences
with a reference pilot sequence;
subtracting the correlation result time-delayed by
one or more symbol durations of the pilot sequence from
the current correlation result in order to suppress the
25 pilot sequence and subsequent incoherent averaging,
additional coherent averaging of the correlation
result over a plurality of symbol durations of the pilot
sequence,
subtracting the incoherent averaging result from the
30 coherent averaging result and
determining the maximum.
3. Method according to Claim 2,
wherein the CDMA-signal is subdivided into a plurality of
35 time slots and after subtraction of the incoherent

averaging result from the coherent averaging result an averaging over a plurality of time slots takes place.

4. Method according to Claim 2 ,
5 wherein the coherent averaging is performed by summation over a plurality of symbol durations of the pilot sequence and subsequent magnitude-formation.
5. Method according to claim 1,
10 wherein the incoherent averaging following the subtracting arrangement is performed by magnitude-formation and subsequent summation over a plurality of symbol durations of the pilot sequence.
- 15 6. Method according to claim 2,
wherein the incoherent averaging following the subtracting arrangement is performed by magnitude-formation and subsequent summation over a plurality of symbol durations of the pilot sequence.
- 20 7. Method according to claim 2,
wherein a weighting of the incoherent averaging result and the coherent averaging result is carried out before the subtraction of the incoherent averaging result from
25 the coherent averaging result.
8. A device for synchronising to a CDMA-signal that contains a pilot sequence, which is overlaid with data sequences, comprising
30 a correlator which correlates the total signal consisting of the transmitted pilot sequence and transmitted data sequences with a reference pilot sequence,
a first time-delay element which time-delays the output signal of the correlator by one or more symbol durations
35 of the pilot sequence,

- a first subtracter which subtracts the output signal time-delayed in the first time-delay element from the current output signal of the correlator,
an incoherent averaging unit which incoherently averages
5 the output signal of the first subtracter and
a device which determines the minimum of the output signal.
9. A device for synchronising to a CDMA-signal that contains
10 a pilot sequence, which is overlaid with data sequences, comprising
a correlator which correlates the total signal consisting of the transmitted pilot sequence and transmitted data sequences with a reference pilot sequence,
15 a first time-delay element which time-delays the output signal of the correlator by one or more symbol durations of the pilot sequence,
a first subtracter which subtracts the output signal time-delayed in the first time-delay element from the
20 current output signal of the correlator,
an incoherent averaging unit which incoherently averages the output signal of the first subtracter,
a coherent averaging unit which coherently averages the output signal of the correlator over a plurality of
25 symbol durations of the pilot sequence,
a second subtracter which subtracts the output signal of the incoherent averaging unit from the output signal of the coherent averaging unit and
a device which determines the maximum of the output
30 signal.
10. Device according to Claim 9,
wherein the CDMA-signal is subdivided into a plurality of time slots and wherein an averaging unit is connected to
35 the output of the second subtracter and averages the output signal of the second subtracter over a plurality of time slots.

11. Device according to Claim 9,
wherein the coherent averaging unit consists of a first
summator, a second time-delay element connecting the
output of the first summator to an input of the first
summator, said second time-delay element time-delays over
one or more symbol durations of the pilot sequence, and
wherein a first magnitude-forming element is connected to
the output of the first summator.
12. Device according to claim 8,
wherein the incoherent averaging unit following the
subtracting arrangement consists of a second summator, a
third time-delay element connecting the output of the
second summator to an input of the second summator, said
third time-delay element time-delays by one or more
symbol durations of the pilot sequence, and wherein a
second magnitude-forming element is connected to the
input of the second summator.
13. Device according to claim 9,
wherein the incoherent averaging unit following the
subtracting arrangement consists of a second summator, a
third time-delay element connecting the output of the
second summator to an input of the second summator, said
third time-delay element time-delays by one or more
symbol durations of the pilot sequence, and wherein a
second magnitude-forming element is connected to the
input of the second summator.
14. Device according to claim 9,
wherein amplifying or attenuating elements are connected
to the output of the coherent averaging unit and/or the
output of the incoherent averaging unit following the
subtracting arrangement in order to define the weighting
ratio of the output of the coherent averaging unit in
relation to the output of the incoherent averaging unit.